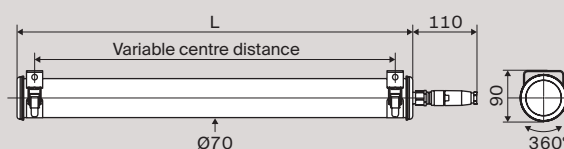
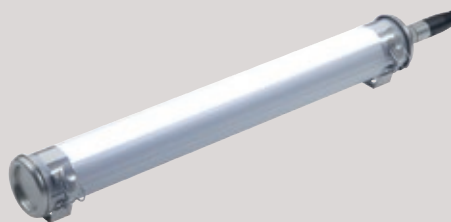


# Rankine 70

Max. temp.	70 °C
Technology	LED
Light output	1650 lm to 2475 lm
Control Gear	"Industry" rated

AG0213



## Key features

Suitable for high temperatures
Small luminaire
Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals



## Options

<b>Finishings</b>	
End caps and fixing straps in Stainless Steel 316 L	MR
<b>Housing</b>	
Housing in Polycarbonate	PO
<b>Disconnectable output cords with Plug (length 0,80 m)</b>	
High-temperature output cord fitted with a 3 pole WIELAND plug	CHT3
<b>Accessories</b>	
Fixings for columns	
Spacer kit (5 or 20 cm) for fire safety standards	
4-outlet IP68 junction box	

## Principal part numbers

Lumens*	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
<b>Versions for new installations</b>						
1650	RAN70 12H830 POME PS3 SA	3404 0010	15		3000	650
	RAN70 12H840 POME PS3 SA	3404 0020				
2475	RAN70 13H830 POME PS3 SA	3404 0030	23		3000	930
	RAN70 13H840 POME PS3 SA	3404 0040				

\* Light output of the luminaire

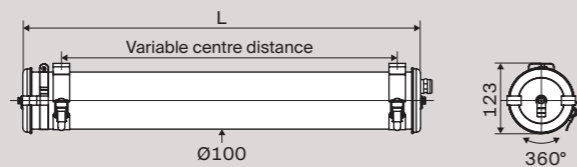
## Specifications

<b>Technical data</b>	
Light source	<ul style="list-style-type: none"> <li>High efficiency LED modules (160 lm/W)</li> <li>Special high-temperature LED modules</li> <li>50 000 h L80/B50 at max. operating temperature</li> <li>Replaceable LED modules</li> <li>CRI &gt; 80</li> </ul>
Optic	<ul style="list-style-type: none"> <li>Light mixing chamber</li> <li>Satin Diffuser to minimise glare</li> </ul>
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none"> <li>Special high-temperature electronic driver (non-dimmable)</li> <li>Resistance to voltage surge: 320 V AC, 48 h</li> <li>Supports voltage peaks &lt; 4 kV</li> </ul>
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm <sup>2</sup> )
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with reinforced imperviousness by radial expansion of the sealing</li> <li>Closing by tightening the nut on the cable gland</li> </ul>
<b>Materials</b>	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
<b>Standards</b>	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

# Pauli 100 HT 80

Max. temp.	80 °C
Technology	T8
Power	1 × 18 W
Housing	Borosilicate glass

AG0213



## Key features

Suitable for very high temperatures
Impervious luminaire
Suitable for industrial environments
Resistant to aggressive chemical environments
Durable and maintainable luminaire



## Options

<b>Finishings</b>	
End caps and fixing straps in Stainless Steel 316 L	MR
<b>Fixings</b>	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
<b>Cable entries (black polyamide)</b>	
1 cable gland-Ø cable: 7 to 14 mm	116
2 cable glands-Ø cable: 5 to 12 mm	213
2 cable glands-Ø cable: 7 to 14 mm	216
<b>Cable entries (nickel-coated brass)</b>	
1 cable gland-Ø cable: 5 to 14 mm	113 LN
2 cable glands-Ø cable: 5 to 54 mm	213 LN
<b>Disconnectable output cords with Plug (length 0,80 m)</b>	
High-temperature output cord fitted with a 3 pole WIELAND plug	CHT3
<b>Accessories</b>	
Protective roof	
Fixings for columns	
4-outlet IP68 junction box	

## Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
<b>Versions without reflector</b>				
1 × 18 W	PAU100 HT80 118C G13 PY 113 BRS	3510 0011		697
<b>Versions with extensive reflector</b>				
1 × 18 W	PAU100 HT80 118C G13 PY 113 RE BRS	3510 5006		697
<b>Versions with intensive reflector</b>				
1 × 18 W	PAU100 HT80 118C G13 PY 113 RI BRS	3510 5014		697

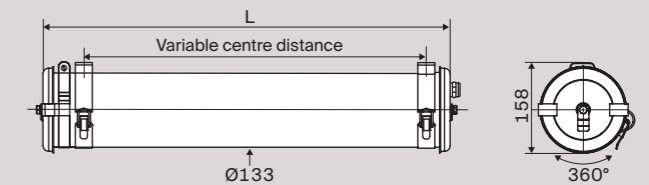
## Specifications

Technical data	
Light source	1 x T8 lamp, not included
Optic	<ul style="list-style-type: none"> <li>White powder coated gear tray serving as reflector for diffuse general lighting</li> <li>Extensive reflector (wide beam) in anodised aluminum sheet</li> <li>Intensive reflector (narrow beam) in anodised aluminium sheet</li> </ul>
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +80 °C
Connection	Cable gland in black polyamid for Ø cable 5-12 mm (3 × 2,5 mm <sup>2</sup> )
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with high mechanical and chemical resistance</li> <li>Long-lasting imperviousness by axial screw fitting</li> </ul>
Materials	
Housing	Borosilicate glass
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Standards	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

# Pauli 133 HT 80

Max. temp.	80 °C
Technology	T8
Power	2 × 18 W
Housing	Borosilicate glass

AG0213



## Key features

Suitable for very high temperatures
Impervious luminaire
Suitable for industrial environments
Resistant to aggressive chemical environments
Durable and maintainable luminaire



## Options

<b>Finishings</b>	
End caps and fixing straps in Stainless Steel 316 L	MR
<b>Fixings</b>	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
<b>Cable entries (black polyamide)</b>	
1 cable gland-Ø cable: 7 to 14 mm	116
2 cable glands-Ø cable: 5 to 12 mm	213
2 cable glands-Ø cable: 7 to 14 mm	216
<b>Cable entries (nickel-coated brass)</b>	
1 cable gland-Ø cable: 5 to 14 mm	113 LN
2 cable glands-Ø cable: 5 to 54 mm	213 LN
<b>Disconnectable output cords with Plug (length 0,80 m)</b>	
High-temperature output cord fitted with a 3 pole WIELAND plug	CHT3
<b>Accessories</b>	
Protective roof	
Fixings for columns	
4-outlet IP68 junction box	

## Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
<b>Versions without reflector</b>				
2 × 18 W	PAU133 HT80 218C G13 PY 113 BRS	3610 0011		677
<b>Versions with extensive reflector</b>				
2 × 18 W	PAU133 HT80 218C G13 PY 113 RE BRS	3610 5017		677

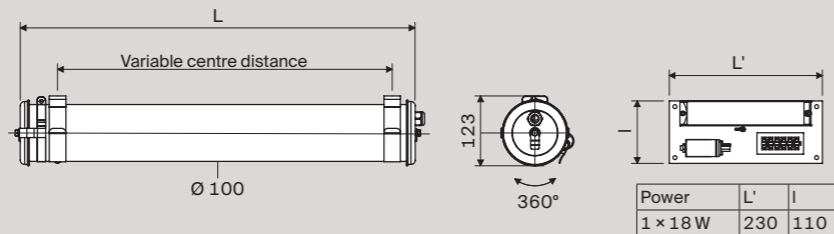
## Specifications

Technical data	
Light source	2 x T8 lamps, not included
Optic	<ul style="list-style-type: none"> <li>White powder coated gear tray serving as reflector for diffuse general lighting</li> <li>Extensive reflector (wide beam) in anodised aluminum sheet</li> </ul>
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +80 °C
Connection	Cable gland in black polyamid for Ø cable 5-12 mm (3 × 2,5 mm <sup>2</sup> )
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with high mechanical and chemical resistance</li> <li>Long-lasting imperviousness by axial screw fitting</li> </ul>
Materials	
Housing	Borosilicate glass
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Standards	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

# Pauli 100 HT 100

Max. temp.	100 °C
Technology	T8
Power	1 × 18 W
Housing	Borosilicate glass

AG0213



## Key features

Suitable for very high temperatures  
 Impervious luminaire  
 Suitable for industrial environments  
 Resistant to aggressive chemical environments  
 Durable and maintainable luminaire



## Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland-Ø cable: 7 to 14 mm	116
Cable entries (nickel-coated brass)	
1 cable gland-Ø cable: 5 to 14 mm	113 LN
Disconnectable output cords with Plug (length 0,80 m)	
High-temperature output cord fitted with a 3 pole WIELAND plug	CHT3
Accessories	
Protective roof	
Fixings for columns	
4-outlet IP68 junction box	

## Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
<b>Versions without reflector</b>				
1 × 18 W	PAU100 HT100 118CS G13 PY 113 BRS	3513 0011		697
<b>Versions with extensive reflector</b>				
1 × 18 W	PAU100 HT100 118CS G13 PY 113 RE BRS	3513 5009		697
<b>Versions with intensive reflector</b>				
1 × 18 W	PAU100 HT100 118CS G13 PY 113 RI BRS	3513 5010		697

Maximum distance between luminaire and gear tray: 50 m

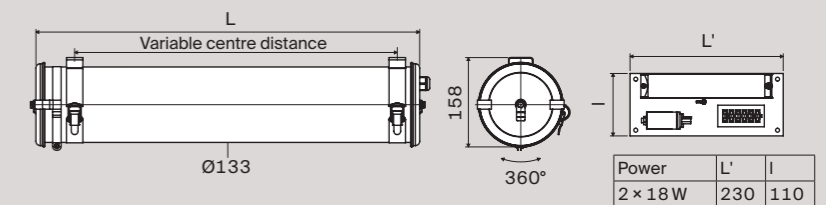
## Specifications

Technical data	
Light source	1 x T8 lamp, not included
Optic	<ul style="list-style-type: none"> <li>White powder coated gear tray serving as reflector for diffuse general lighting</li> <li>Extensive reflector (wide beam) in anodised aluminum sheet</li> <li>Intensive reflector (narrow beam) in anodised aluminium sheet</li> </ul>
Control Gear	<ul style="list-style-type: none"> <li>Ferromagnetic Control Gear with very low losses (EEI B1)</li> <li>Separate gear tray included in delivery</li> </ul>
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +100 °C
Connection	<ul style="list-style-type: none"> <li>Cable gland in black polyamid for Ø cable 5-12 mm (3 x 2,5 mm<sup>2</sup>)</li> <li>Separate gear tray (6 x 2,5 mm<sup>2</sup>)</li> </ul>
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with high mechanical and chemical resistance</li> <li>Long-lasting imperviousness by axial screw fitting</li> </ul>
Materials	
Housing	Borosilicate glass
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Standards	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

# Pauli 133 HT 100

Max. temp.	100 °C
Technology	T8
Power	2 × 18 W
Housing	Borosilicate glass

AG0213



## Key features

Suitable for very high temperatures  
 Impervious luminaire  
 Suitable for industrial environments  
 Resistant to aggressive chemical environments  
 Durable and maintainable luminaire



## Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland-Ø cable: 7 to 14 mm	116
Cable entries (nickel-coated brass)	
1 cable gland-Ø cable: 5 to 14 mm	113 LN
Disconnectable output cords with Plug (length 0,80 m)	
High-temperature output cord fitted with a 3 pole WIELAND plug	CHT3
Accessories	
Protective roof	
Fixings for columns	
4-outlet IP68 junction box	

## Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
<b>Versions without reflector</b>				
2 × 18 W	PAU133 HT100 218CS G13 PY 113 BRS	3613 0011		677
<b>Versions with extensive reflector</b>				
2 × 18 W	PAU133 HT100 218CS G13 PY 113 RE BRS	3613 5006		677

Maximum distance between luminaire and gear tray: 50 m

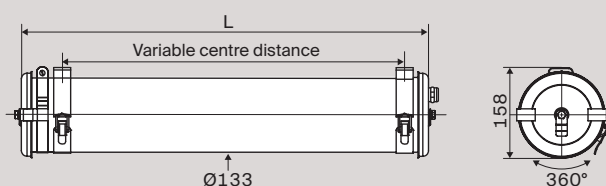
## Specifications

Technical data	
Light source	2 x T8 lamps, not included
Optic	<ul style="list-style-type: none"> <li>White powder coated gear tray serving as reflector for diffuse general lighting</li> <li>Extensive reflector (wide beam) in anodised aluminum sheet</li> </ul>
Control Gear	<ul style="list-style-type: none"> <li>Ferromagnetic Control Gear with very low losses (EEI B1)</li> <li>Separate gear tray included in delivery</li> </ul>
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +100 °C
Connection	<ul style="list-style-type: none"> <li>Cable gland in black polyamid for Ø cable 5-12 mm (3 x 2,5 mm<sup>2</sup>)</li> <li>Separate gear tray (7 x 2,5 mm<sup>2</sup>)</li> </ul>
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with high mechanical and chemical resistance</li> <li>Long-lasting imperviousness by axial screw fitting</li> </ul>
Materials	
Housing	Borosilicate glass
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Standards	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

# Pauli 133 HT 200

Max. temp.	200°C
Technology	E27 incandescence lamp *
Power	1 × 60 W and 2 × 60 W
Housing	Borosilicate glass

AG0213



## Key features

Suitable for very high temperatures
Impervious luminaire
Suitable for industrial environments
Resistant to aggressive chemical environments
Durable and maintainable luminaire



## Options

<b>Finishings</b>	
End caps and fixing straps in Stainless Steel 316 L	MR
<b>Fixings</b>	
Reinforced fixing straps with HSHC screw	BRV
<b>Cable entries (nickel-coated brass)</b>	
2 cable glands-Ø cable: 5 to 8 mm	213 LN
<b>Accessories</b>	
Fixings for columns	

## Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
<b>1-lamp version</b>				
1 × 60 W	PAU133 HT200 1 × 60 W E27 PY 113 LN BRS	3617 0011		464
<b>2-lamp version</b>				
2 × 60 W	PAU133 HT200 2 × 60 W E27 PY 113 LN BRS	3617 0021		677

\* Special high-temperature lamp to be ordered separately Part No.: L-60-INC-HT










## Specifications

<b>Technical data</b>	
Light source	1 or 2 special incandescent oven lamps E27 (to be ordered separately)
Optic	<ul style="list-style-type: none"> <li>Stainless steel tray</li> <li>Reflector in anodised aluminum</li> </ul>
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20°C to +200°C
Connection	Cable gland in nickel-coated brass for Ø cable 5-8 mm (3 × 2,5 mm <sup>2</sup> )
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none"> <li>Housing in one piece with high mechanical and chemical resistance</li> <li>Long-lasting imperviousness by axial screw fitting</li> </ul>
<b>Materials</b>	
Housing	Borosilicate glass
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
<b>Standards</b>	
Imperviousness	IP66, IP68 and IP69 K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)










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# Options and accessories

To simplify fitting, adaptation and installation safety, Sammode offers all the options and accessories needed to install the right luminaire for your needs.

Fixings	CHC screw reinforced fixing straps	Compatibility	Code	
	<ul style="list-style-type: none"> <li>Set of two reinforced screw-clamped stainless steel fixing straps</li> <li>This screw closure ensures secure luminaire mounting</li> <li>Recommended for surface-mounted luminaires</li> <li>Recommended where the luminaire is subject to mechanical stress (vibration, etc.)</li> <li>For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BRVT)</li> </ul>	Pauli HT 80, Pauli HT 100 and Pauli HT 200 ranges only	BRV	
				
Shock-resistant CHC screw fixing straps	Compatibility	Code		
<ul style="list-style-type: none"> <li>Set of two reinforced screw-clamped stainless steel fixing straps with bracing legs</li> <li>Recommended for surface-mounted luminaires</li> <li>Recommended where the luminaire will be subject to severe mechanical stresses</li> <li>For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BACT)</li> </ul>	Pauli HT 80, Pauli HT 100 and Pauli HT 200 ranges only	BAC		
				
316 L marine grade stainless steel	Compatibility	Code		
<ul style="list-style-type: none"> <li>Luminaire external metal components in 316 L stainless steel and screws in A4 stainless steel (in the basic option, these are 304 L stainless steel, with screws in A2 stainless steel)</li> <li>Excellent resistance to corrosion by pitting, and specifically recommended for marine applications</li> </ul>	All tubular ranges	MR		
Cable entries	1 cable gland in black polyamide for cable Ø: 5 to 12 mm	Compatibility	Code	
	<ul style="list-style-type: none"> <li>Luminaires supplied with a cable gland fitted to the end caps</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 5 to 12 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: black polyamide 6</li> <li>Recommended for luminaires in contact with acids in sprayed or gaseous form</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 200 range	113	
				
	<ul style="list-style-type: none"> <li>Luminaires supplied with 2 cable glands fitted to the end caps and a 3 x 2.5 mm<sup>2</sup> two-stage plug-in terminal to enable looped cabling.</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 5 to 12 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: black polyamide 6</li> <li>Recommended for luminaires in contact with acids in sprayed or gaseous form</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 100 and the Pauli HT 200 range	213	
				
	<ul style="list-style-type: none"> <li>Luminaires supplied with a polyamide cable gland</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 7 to 14 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: black polyamide 6</li> <li>Recommended for luminaires in contact with acids in sprayed or gaseous form</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 200 range	116	
				

Spare parts are available for all our luminaires. For orders or additional information, please contact us by phone on +33 (0) 1 43 14 84 90 or e-mail us at enquiry@sammode.com.

Cable entries (cont)	2 cable glands in black polyamide for cable Ø: 7 to 14 mm	Compatibility	Code
	<ul style="list-style-type: none"> <li>Luminaires supplied with 2 cable glands fitted to the end caps and a 3 x 2.5 mm<sup>2</sup> two-stage plug-in terminal to enable looped cabling</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 7 to 14 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: black polyamide 6</li> <li>Recommended for luminaires in contact with acids in sprayed or gaseous form</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 100 and the Pauli HT 200	216
			
1 cable gland in nickel plated brass	Compatibility	Code	
<ul style="list-style-type: none"> <li>Luminaires supplied with a double capacity nickel plated brass cable gland</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 5 to 14 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: nickel plated brass</li> <li>Recommended for luminaires used in the presence of mineral oils and/or hydrocarbons</li> </ul>	All Ø 100 and Ø 133 tubular ranges	113 LN	
			
2 cable glands in nickel plated brass	Compatibility	Code	
<ul style="list-style-type: none"> <li>Luminaires supplied with 2 nickel plated cable glands fitted to the end caps and a 3 x 2.5 mm<sup>2</sup> two-stage plug-in terminal to enable looped cabling</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 5 to 14 mm</li> <li>Terminal: screw connection, 3 x 2.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: nickel plated brass</li> <li>Recommended for luminaires used in the presence of mineral oils and/or hydrocarbons</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 100 range	213 LN	
			
IP68/IP69 K plug-in connector for class I luminaires	Compatibility	Code	
<ul style="list-style-type: none"> <li>Luminaires supplied with a straight plug-in connector with locking ring</li> <li>The base is end-cap mounted for Ø 100 and Ø 133 luminaires, and mounted to the cable gland body using an adapter for Ø 70 luminaires.</li> <li>Female socket supplied non-cabled</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø: 8 to 10 mm</li> <li>Terminal: screwed, 3 x 1.5 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Materials: <ul style="list-style-type: none"> <li>Nickel plated brass base and adapter</li> <li>Polyamide 6 body</li> <li>Nickel plated brass locking ring</li> </ul> </li> <li>Recommended for off-site maintenance of luminaires and for Plug &amp; Play installations</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli HT 80, the Pauli HT 100 and the Pauli HT 200 range	PS3	
			
IP68/IP69 K high-temperature plug-in cord for class I luminaires	Compatibility	Code	
<ul style="list-style-type: none"> <li>Luminaires fitted with a 80 cm Wieland RST male plug on a special high-temperature 80 cm silicone cord and a non-cabled female socket</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø 6 to 10 mm</li> <li>Female and male sockets: screw connection, 3 x 4 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69 K</li> <li>Material: <ul style="list-style-type: none"> <li>Contact: Surface treated brass</li> <li>Insulating components: PA66</li> </ul> </li> <li>Recommended for off-site maintenance of luminaires and for Plug &amp; Play installations</li> </ul>	All Ø 100 and Ø 133 tubular ranges, except the Pauli 133 HT 100, and the Pauli 133 HT 200 range	CHT3	
			



Cable entries (cont.)	IP68/IP69K high-temperature plug-in cord for class I luminaires	Compatibility	Code
	<ul style="list-style-type: none"> <li>Luminaires fitted with a 80 cm Wieland RST male plug on a special high-temperature 80 cm silicone cord and a non-cabled female socket</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable Ø 6 to 10 mm</li> <li>Female and male sockets: screw connection, 5 × 4 mm<sup>2</sup></li> </ul> </li> <li>Ingress protection: IP66/IP68/IP69K</li> <li>Material: <ul style="list-style-type: none"> <li>Contact: Surface treated brass</li> <li>Insulating components: PA66</li> </ul> </li> <li>Recommended for off-site maintenance of luminaires and for Plug &amp; Play installations</li> </ul>	Pauli 133 HT 100 2 × 36 W and 2 × 58 W range only	CHT4



## Accessories

Folded 304 L stainless steel protective cover	Compatibility	Code
304 L stainless steel protective cover for installation on the fixing straps of Ø 100 and 133 ranges of luminaires. The fixing holes are to be drilled on site to suit the space between fixing straps	All tubular Ø 100 and Ø 133 ranges	
Folded 304 L stainless steel protective cover L 800 mm	12H LED 18 W T8	PU6362
Folded 304 L stainless steel protective cover L 1100 mm	13H/23H LED	CP00595
Folded 304 L stainless steel protective cover L 1400 mm	14H/24H LED 36 W T8	PU6286
Folded 304 L stainless steel protective cover L 1700 mm	15H/25H LED 58 W T8	PU6363
Folded 304 L stainless steel protective cover L 1950 mm	16H/26H LED	CP00597
Folded 316 L stainless steel protective cover	Compatibility	Code
316 L stainless steel protective cover for installation on the fixing straps of Ø 100 and 133 ranges of luminaires. The fixing holes are to be drilled on site to suit the space between fixing straps	All tubular Ø 100 and Ø 133 ranges	
Folded 316 L stainless steel protective cover L 800 mm	12H LED 18 W T8	CP00565
Folded 316 L stainless steel protective cover L 1100 mm	13H/23H LED	CP00596
Folded 316 L stainless steel protective cover L 1400 mm	14H/24H LED 36 W T8	CP00566
Folded 316 L stainless steel protective cover L 1700 mm	15H/25H LED 58 W T8	CP00567
304 L column mounting fixing straps	Compatibility	Code
Kit of two 304 L stainless steel column mounting fixing straps to carry standard Sammode luminaire fixing straps	All tubular ranges	
Kit of two 304 L stainless steel 1 ¼" (42 mm) column strap mountings		CP00568
Kit of two 304 L stainless steel 1 ½" (49 mm) column strap mountings		CP00569
Kit of two 304 L stainless steel 2" (60 mm) column strap mountings		CP00570
316 L column mounting fixing straps	Compatibility	Code
Kit of two 316 L stainless steel column mounting fixing straps to carry standard Sammode luminaire fixing straps	All tubular ranges	
Kit of two 316 L stainless steel 1 ¼" (42 mm) column strap mountings		CP00571
Kit of two 316 L stainless steel 1 ½" (49 mm) column strap mountings		CP00572
Kit of two 316 L stainless steel 2" (60 mm) column strap mountings		CP00573



Raised 304 L stainless steel strap fixings for ceiling mounting	Compatibility	Code
<ul style="list-style-type: none"> <li>Kit of 2 raised 304 L stainless steel strap fixings to ceiling-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 20 cm between the equipment and the face of the sandwich panel</li> <li>Strap fixing screws included</li> </ul>	All tubular ranges, except the Pauli HT 80, the Pauli HT 100 and the Pauli HT 200 range	PU44277
Raised 316 L stainless steel strap fixings for ceiling mounting	Compatibility	Code
<ul style="list-style-type: none"> <li>Kit of 2 raised 316 L stainless steel strap fixings to ceiling-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 20 cm between the equipment and the face of the sandwich panel</li> <li>Strap fixing screws included</li> </ul>	All tubular ranges, except the Pauli HT 80, the Pauli HT 100 and the Pauli HT 200 range	PU47378
Raised 304 L stainless steel strap fixings for wall mounting	Compatibility	Code
<ul style="list-style-type: none"> <li>Kit of 2 raised 304 L stainless steel strap fixings to wall-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 5 cm between the equipment and the face of the sandwich panel</li> <li>Strap fixing screws included</li> </ul>	All tubular ranges, except the Pauli HT 80, the Pauli HT 100 and the Pauli HT 200 range	PU44278
Raised 316 L stainless steel strap fixings for wall mounting	Compatibility	Code
<ul style="list-style-type: none"> <li>Kit of 2 raised 316 L stainless steel strap fixings to wall-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 5 cm between the equipment and the face of the sandwich panel</li> <li>Strap fixing screws included</li> </ul>	All tubular ranges, except the Pauli HT 80, the Pauli HT 100 and the Pauli HT 200 range	PU45880
4-outlet IP68 junction box	Compatibility	Code
<ul style="list-style-type: none"> <li>High-protection junction box for the connection of between 1 and 3 luminaires</li> <li>Capacities: <ul style="list-style-type: none"> <li>Cable diam. 7 to 14 mm</li> </ul> </li> <li>Ingress protection: IP66/IP68</li> <li>Materials: <ul style="list-style-type: none"> <li>Casing: PA 66</li> <li>Cover trim: SEBS</li> <li>Seals: TPE</li> </ul> </li> <li>Service temperature: -40 °C to +125 °C</li> <li>Supplied with blanking plugs for unused outlets</li> <li>Connection terminal not included</li> </ul>	All tubular ranges, except the Pauli HT 200 range	CP00674



# Materials

Our 50+ years of experience in the design and use of tubular luminaires have led us to select only the most appropriate materials for use in your industrial environments.

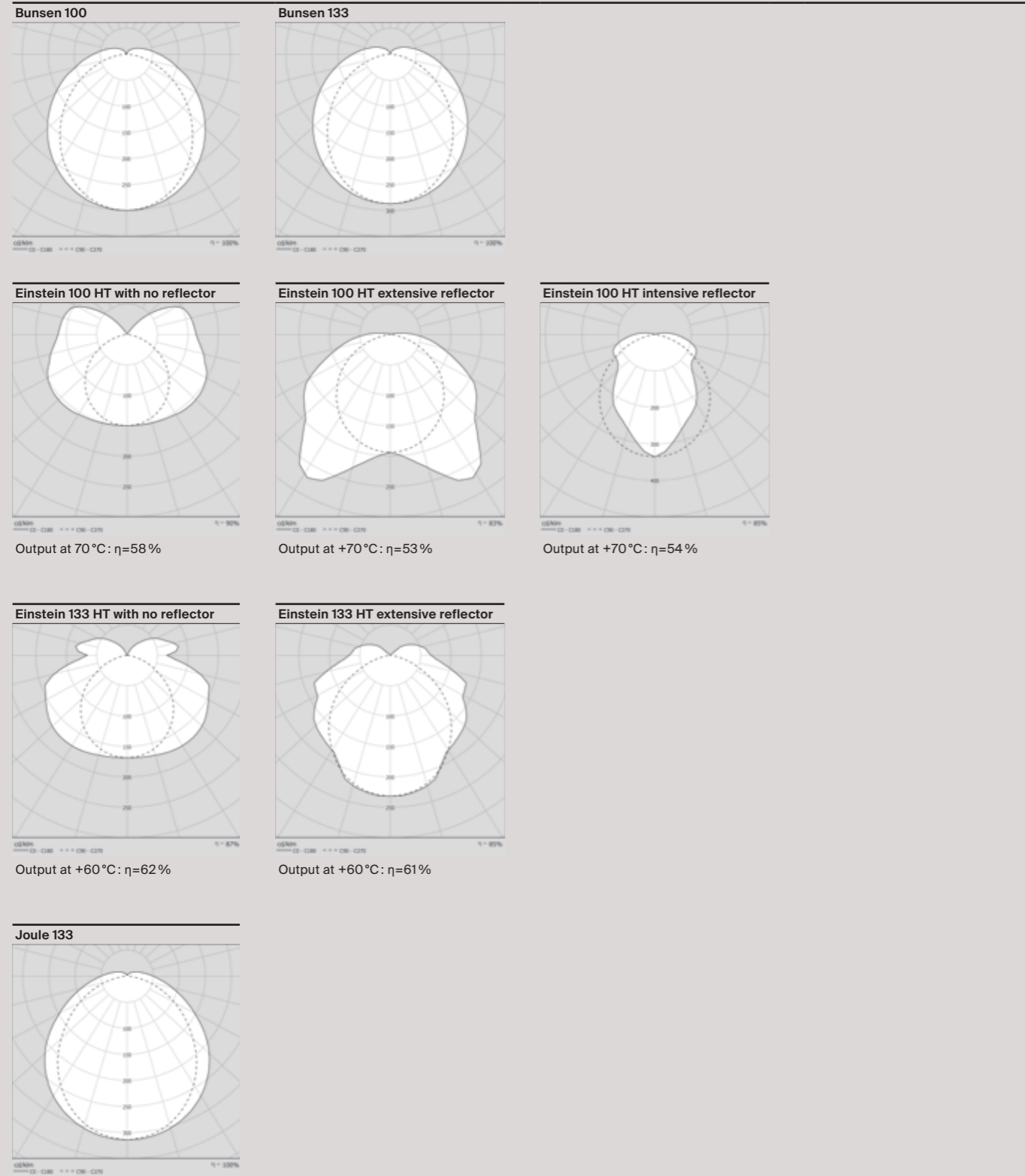
Materials	Features	Special benefits	Precautions and limitations on use
<b>304 L stainless steel</b>		<ul style="list-style-type: none"> <li>• Low-carbon chrome-nickel Austenitic stainless steel</li> <li>• Good corrosion resistance, superior to that offered by 304 stainless steel</li> <li>• Good crack resistance</li> <li>• Good mechanical properties</li> </ul>	<ul style="list-style-type: none"> <li>• Corrosion by pitting in acid or chlorinated environments</li> </ul>
<b>316 L stainless steel (MR option)</b>	This grade of stainless steel is particularly resistant to corrosion, and is recommended for marine environments	<ul style="list-style-type: none"> <li>• Low-carbon chrome-nickel-molybdenum Austenitic stainless steel</li> <li>• Very good corrosion resistance, especially in acid or chlorinated (marine) environments</li> <li>• Excellent resistance to intergranular corrosion (pitting)</li> <li>• Good crack resistance</li> <li>• Good mechanical properties</li> </ul>	
<b>Coextruded polycarbonate/ PMMA (POME option)</b>	This composite diffuser has been specially developed to exploit the mechanical impact protection of polycarbonate (IK10-20 Joules) in combination with the chemical and UV resistance of polymethyl methacrylate. Its use is recommended for outdoor lighting applications	<ul style="list-style-type: none"> <li>• Excellent mechanical properties: crack resistance, strength and impact resistance</li> <li>• Consistency of key characteristics over a broad temperature range</li> <li>• Dimensional stability</li> <li>• Water vapour impermeability</li> <li>• Good scratch resistance</li> <li>• Good chemical resistance</li> <li>• Good UV resistance</li> </ul>	<ul style="list-style-type: none"> <li>• Combustible (650 °C in the glow wire test)</li> <li>• Temperature limited to 70 °C</li> </ul>
<b>Polycarbonate (PO option)</b>	The polycarbonate we use for our tubular diffusers offers the best compromise between mechanical resistance (IK10-20 Joules) and fire resistance for industrial applications	<ul style="list-style-type: none"> <li>• Consistency of key characteristics over a broad temperature range</li> <li>• Dimensional stability</li> <li>• Water vapour impermeability</li> <li>• Good fire resistance (960 °C in the glow wire test)</li> </ul>	<ul style="list-style-type: none"> <li>• Attacked by certain detergents and bactericides</li> <li>• Poor resistance to hydrocarbons (oils, solvents, etc.)</li> <li>• Yellowing in outdoor applications</li> <li>• Poor scratch resistance</li> <li>• Temperature limited to 70 °C</li> </ul>
<b>Borosilicate glass (PY option)</b>	The borosilicate glass diffuser has been developed for our very high-temperature range of luminaires. It is also recommended for use in applications requiring exceptional resistance to chemical attack (acid atmospheres, hydrocarbons, etc.) and abrasion (from coal dust, cement dust, etc.).	<ul style="list-style-type: none"> <li>• Very high heat resistance</li> <li>• Thermal shock resistance</li> <li>• Excellent resistance to chemicals (except fluorinated products)</li> <li>• Good scratch resistance</li> <li>• Good mechanical strength</li> <li>• Non-combustible</li> </ul>	<ul style="list-style-type: none"> <li>• Relative fragility (IK07)</li> <li>• Weight</li> </ul>



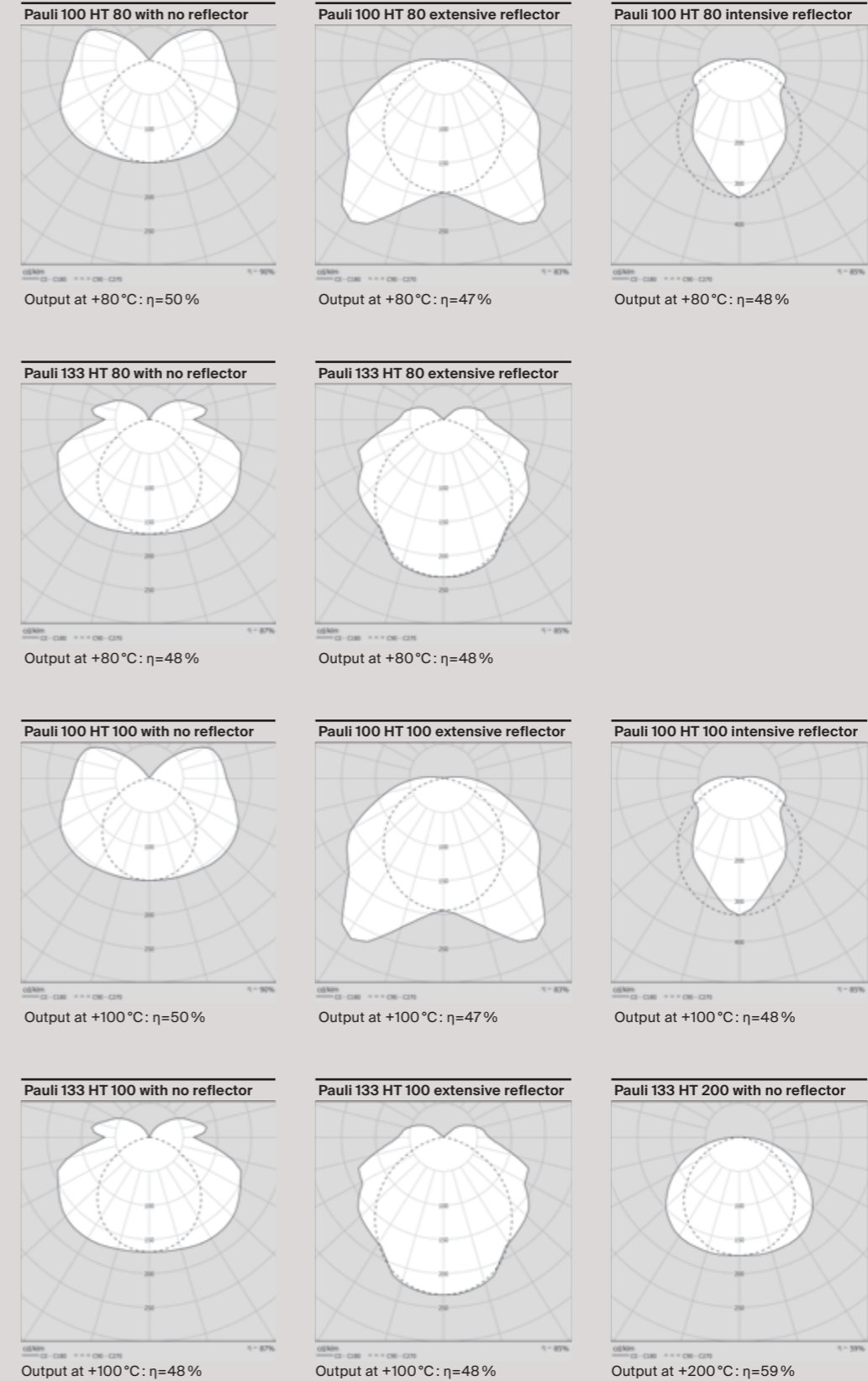
# Photometric polar diagrams

Correct sizing of your installation can make a considerable contribution to energy savings. We are available to help you plan the layout of your installation. Please e-mail us at [enquiry@sammode.com](mailto:enquiry@sammode.com)

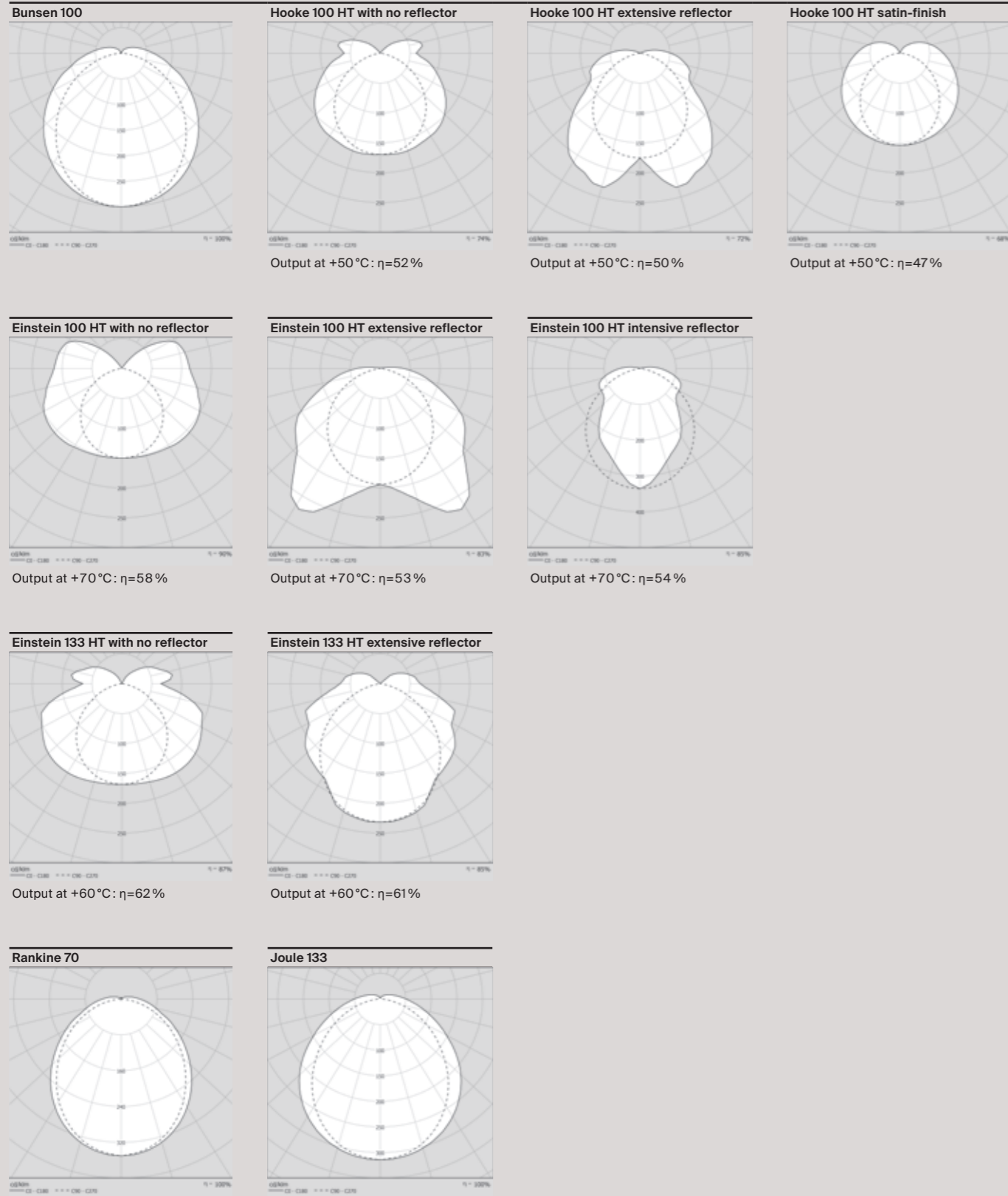
## General lighting



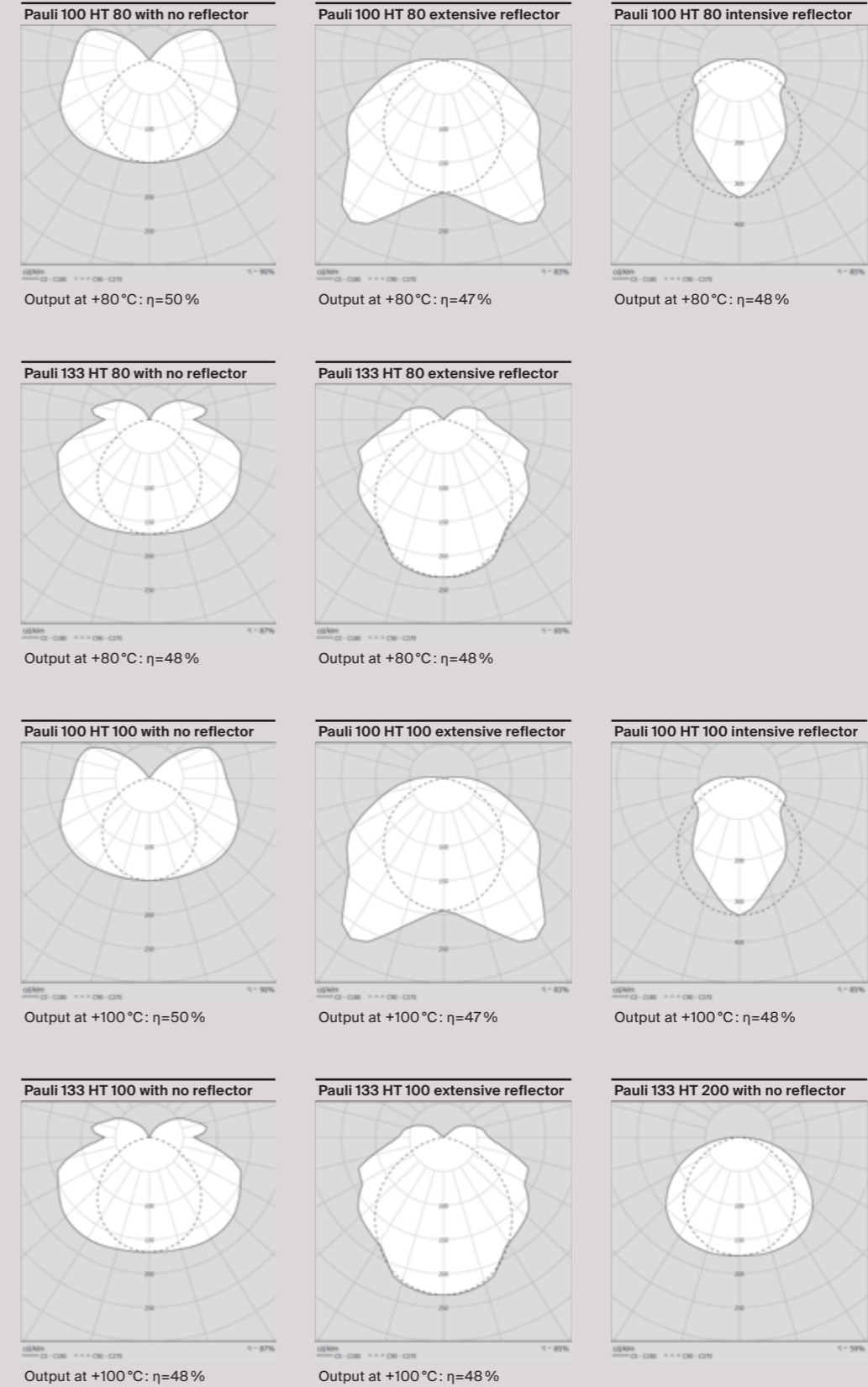
## General lighting (cont.)



**Task lighting**



*Task lighting (cont.)*



# Lighting levels

This guide sets out the average recommended lighting level for each application. The lighting requirement must be calculated at the location where the task is performed and at the level of the work surface, which is usually 80 cm above the floor (except where indicated otherwise).

## Indoor lighting

EN 12464-1 standard of 2011: Indoor workplaces

Common spaces	Type	Type of use	Lighting level	
	<b>Circulation areas</b>	Circulation areas and corridors	100 lux at floor	
		Circulation with vehicles on the route	150 lux at floor	
		Stairs	100 lux at floor	
		Passenger and goods lifts	100 lux	
		In front of goods lifts	200 lux	
		Loading bays	150 lux	
		<b>Restaurants and hotels</b>	Reception, cash desk, porter's desk	300 lux
	Kitchens	500 lux		
	Restaurants, dining rooms, function rooms [1]	-		
	Buffet	300 lux		
	Self-service restaurants	200 lux		
	Conference rooms [2]	500 lux		
	Corridors [3]	100 lux at floor		
	1. Design the lighting to create the appropriate atmosphere 2. Plan for adjustable lighting 3. The lowest levels are acceptable during the night			
<b>Industrial activities and crafts</b>	<b>Bakeries</b>	Preparation and baking	300 lux	
		Finishing, icing and decoration	500 lux	
	<b>Cement, cement goods, concrete, bricks</b>	Drying	50 lux	
		Preparation of materials: work on kilns and mixers	200 lux	
		General machine work	300 lux	
		Rough forms	300 lux	
	<b>Ceramics, tiles, glass, glassware</b>	Drying	50 lux	
		Preparation, general machine work	300 lux	
		Enameling, lamination, moulding, shaping simple pieces, satin-finishing, glass blowing	300 lux	
		Grinding, engraving, glass polishing, shaping precision parts, manufacturer of glass instruments	750 lux	
		Grinding of optical glass, crystal, hand grinding and engraving	750 lux	
		Precision work, e.g. decorative grinding, hand painting	1000 lux	
		Manufacture of synthetic precious stones	1500 lux	
		<b>Leather and leather goods</b>	Working areas above tanks, casks and pits	200 lux
	Fleshing, milling, drawing and rubbing of hides	300 lux		
	Saddlery, shoemaking: stitching, sewing, polishing, shaping, cutting and punching	500 lux		
	Sorting	500 lux		
	Machine leather dying	500 lux		
	Quality control	1000 lux		
	Colour inspection	1000 lux		
	Shoemaking	500 lux		
	Glove making	500 lux		
	<b>Paper and paper goods</b>	Edge runners, pulp mills	200 lux	
		Paper manufacture and processing, paper and corrugated machines, cardboard manufacture	300 lux	
		Standard bookbinding work, e.g. folding, sorting, gluing, cutting, embossing, sewing	500 lux	
	<b>Power stations</b>	Fuel supply plant	50 lux	
		Boiler house	100 lux	
		Machine halls	200 lux	
		Side rooms, e.g. pump rooms, condenser rooms, etc., switchboards (inside buildings)	200 lux	
		Control rooms [1]	500 lux	
	1. Dimming may be required			
	<b>Printers</b>	Cutting, gilding, embossing, block engraving, work on stones and platens, printing machines, matrix making	500 lux	
		Paper sorting and hand printing	500 lux	
Typesetting, retouching, lithography		1000 lux		
Colour print inspection		1500 lux		
Steel and copper engraving		2000 lux		

<i>Industrial activities and crafts (suite)</i>				
<b>Industrial activities and crafts (suite)</b>	<b>Rolling mills, iron and steelworks</b>	Production plants without manual operation	50 lux	
		Production plants with continuous manual operation	200 lux	
		Slab store	50 lux	
		Furnaces	200 lux	
		Mill train, coiler, shear line	300 lux	
		Control platforms; control panels	300 lux	
		Test, measurement and inspection	500 lux	
		Underfloor man-sized tunnels, belt sections, cellars, etc.	50 lux	
		<b>Wood working and processing</b>	Automated processing, e.g. drying, plywood manufacture	50 lux
			Steam pits	150 lux
	Saw frame		300 lux	
	Work at joiners bench, gluing, assembly		300 lux	
	Polishing, painting, fancy joinery		750 lux	
	Work on wood working machines, e.g. turning, fluting, dressing, rebating, grooving, cutting, sawing, sinking		500 lux	
	Selection of the near woods		750 lux	
	Marquetry, inlay work		750 lux	
	Quality control, inspection		1000 lux	
	<b>Foodstuffs and luxury food industries</b>	Workstations and working areas in breweries and maltings, cask washing and filling, screening, peeling and cooking in canning and chocolate production plants, workstations and working areas in sugar refineries, the drying and working of raw tobacco and the cellar-maturing of wine	200 lux	
		Product sorting and washing, crushing, mixing and packaging	300 lux	
		Fruit and vegetable cutting and sorting	300 lux	
		Workstations and critical working areas in abattoirs, butchers, dairies, flour mills and the filtering facilities of sugar refineries	500 lux	
		Ready meal production, kitchen work, and cigar/cigarette production	500 lux	
		Glass and bottle checking, product inspection, trimming, sorting and decoration	500 lux	
		Laboratories	500 lux	
		Colour inspection	1000 lux	
		<b>Chemicals, plastics and rubber industry</b>	Remote-operated processing installations	50 lux
			Processing installations with limited manual intervention	150 lux
Constantly manned workplaces in processing installations	300 lux			
Precision measuring rooms, laboratories	500 lux			
Pharmaceutical production	500 lux			
Tyre production	500 lux			
Colour inspection	1000 lux			
<b>Electrical and electronics industries</b>	Cutting, finishing, inspection	750 lux		
	Cable and wire manufacture	300 lux		
	Winding (large coils)	300 lux		
	Winding (medium-sized coils)	500 lux		
	Winding (small coils)	750 lux		
	Coil impregnating	300 lux		
	Galvanising	300 lux		
	Large-scale assembly work (e.g. large transformers)	300 lux		
	Medium-scale assembly work (e.g. switchboards)	500 lux		
	Small-scale assembly work (e.g. telephones, radios, IT hardware, computers)	750 lux		
Precision assembly work (e.g. measuring equipment, printed circuit boards)	1000 lux			
<b>Foundries and metal casting</b>	Electronic workshops, testing, adjusting	1500 lux		
	Man-size underfloor tunnels, cellars, etc.	50 lux		
	Platforms	100 lux		
	Send preparation	200 lux		
	Dressing rooms	200 lux		
	Work places at cupola and mixer	200 lux		
	Casting bay	200 lux		
	Shake out areas	200 lux		
	Machine moulding	200 lux		
	Hand and core moulding	300 lux		
	Die casting	300 lux		
	Model building	500 lux		

# Fluorescent lamps\*

\* Data sourced from leading lamp manufacturers, and subject to change.

The following tables give the maximum power consumption data for our luminaires fitted with fluorescent light sources. CELMA (Federation of National Manufacturers Associations for Luminaires and Electrotechnical components in the European Union) provides a classification of ballasts (or EELs) based on the combined power consumption values of the lamp system + ballast.

**Standard lamps** These are the most commonly used lamps

	P (W)	L (mm)	Flux <sup>1</sup> (lm)	Colour temp (K)	IRC	Class B1 ferromagnetic ballast	
						Conso. <sup>2</sup> (W)	Lifespan <sup>3</sup> (h)
<i>T8 tubes, 26 mm diameter, G13 fitting</i>							
	18	590	1350	3000 / 4000	85	≤ 24	15 000
	36	1200	3350			≤ 41	
	58	1500	5200			≤ 64	



*Compact fluorescent lamps, 2G11 fitting*

	18	217	1200	3000 / 4000	85	≤ 24	15 000
	36	411	2900			≤ 41	



## Long-life lamps

These lamps offer a longer lifespan than standard lamps, which is comparable to that of LED solutions, but with no effect on lighting performance (identical luminous flux).

### Benefits:

- Lower maintenance costs as a direct result of the longer replacement intervals
- Ideal where lamp replacement is costly (at

extreme height, difficult access, etc.) or disruptive to the production

- Reduced waste
- Low early failure rate

	P (W)	L (mm)	Colour temp (K)	IRC	Class B1 ballast	
					Conso. <sup>2</sup> (W)	Lifespan <sup>3</sup> (h)
<i>Tubes T8, 26 mm diameter, G13 fitting</i>						
	18	590	3000 / 4000	85	≤ 24	47 000
	36	1200			≤ 41	
	58	1500			≤ 64	



*Compact fluorescent lamps, 2G11 fitting*

	18	217	3000 / 4000	85	≤ 19	21 000
	36	411			≤ 36	



## Nota

1. Lamp luminous flux data refer to a temperature of 25°C to enable efficiency calculation in accordance with EN13032.

2. The consumption figures shown are standardised maximum values. For precise consumption data, please contact us.

3. The average lifespan of a lamp refers to a mortality rate of 50% (with continued luminous flux greater than 90% for surviving lamps). It refers to a 3-hour cycle (2 hours, 45 minutes on/15 minutes off).

# High-temperature incandescent lamps

\* Data sourced from leading lamp manufacturers, and subject to change

The following table gives the technical data for special incandescent lamps for high-temperature applications, as used in our Pauli 133 HT 200 luminaires.

	P (W)	Flux (lm)	Colour temp (K)	IRC	Conso. (W)	Lifespan (h)
<i>Incandescent lamp, E27 fitting</i>	60	660	2800	100	60	1000



# Calculating the luminous flux of a luminaire

The luminous flux of a luminaire (in lumens) is obtained by multiplying the flux of the lamp (s) by the efficiency of the luminaire (available in the photometric polar diagram chapter):  $\Phi_{\text{luminaire}} = \Phi_{\text{lamp}} \times \eta$

## Example:

Luminous flux of a Pauli HT 80 with extensive reflector at 80°C and T8 58W lamp:

$$\Phi_{\text{luminaire}} = 5200 \text{ lm} \times 47\% = 2444 \text{ lm}$$

Luminous flux is a simple criterion that enables a first level of comparison between luminaires, particularly comparison of fluorescent products with LED products. However, it is important to bear in mind that luminous flux does not always equate to high light levels in the working area.

So efficient lighting is not just about the quantity of light, but how well the luminous flux is directed. This is referred to as 'useful flux', and photometric polar diagrams (charting the spatial distribution of light intensity) remain the most relevant criterion.

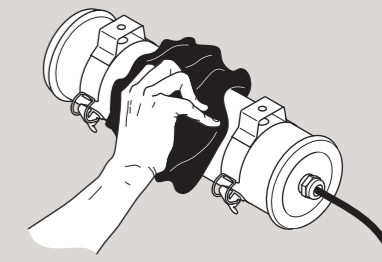
Our sales and technical teams are available to assist you in selecting the correct product for your needs.

# Maintenance

Throughout our history, we have always maintained a culture of uncompromising quality and design our luminaires for exceptionally long life in the most aggressive environments. Nevertheless, maintaining their characteristics and performance in these environments also relies on the quality of luminaire installation and maintenance.

## Diffusers

Regular cleaning of the luminaire avoids the accumulation of surface deposits, and ensures that it retains its original appearance and specifications. The best cleaning method is to use a little soap in warm water with the optional addition of a gentle domestic detergent, and wipe the luminaire using a soft fabric or non-abrasive sponge. The surfaces should then be rinsed with cold water and dried immediately with a soft cloth to avoid residual water marks. Never use abrasive cleaning or highly alkaline materials, and never scrape luminaires using scrapers, razor blades or other sharp tools.



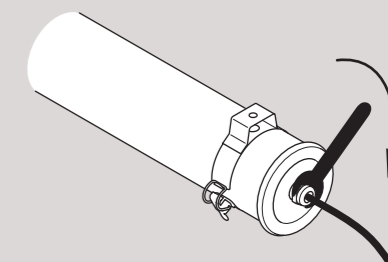
## Stainless steel components

Regular washing of stainless steel components (end caps, fixings, etc.) with clean water improves their resistance and avoids the accumulation of the conductive deposits that result in pitting (galvanic corrosion). It is also preferable to use stainless steel fixings (A2 for use with 304 L, and A4 for use with 316 L) when mounting luminaires and to protect them against molten metal spatter (from arc welding, etc.) and contamination as a result of an unprotected mounting (rust streaking, etc.).



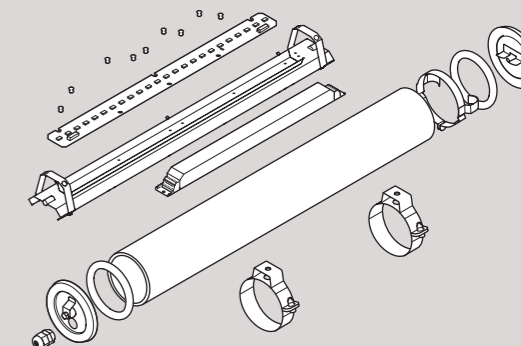
## Ingress protection

The best-possible long-term seal is maintained by following the installation instructions available in our online publications ([www.sammode.com](http://www.sammode.com)). Particular care should be taken to tighten cable glands and their suitability for the type of cable used.



## Spare parts

The simple assembly methods (nuts and bolts, rivets, etc.) used in our luminaires ensure that they can be easily dismantled to facilitate maintenance. From light source (LED modules, etc.) to electronic power supplies, mechanical structure (strap mountings, diffusers, etc.) and consumables (lamps, starters, condensers, sockets, batteries, etc.), every part of the luminaire is designed to last and be replaceable. Spare parts are available for all our luminaires. For orders or additional information, please call us on +33 (0) 1 43 14 84 90 or e-mail us at [enquiry@sammode.com](mailto:enquiry@sammode.com).





# Specifications

## Ingress Protection (IP)

The IP rating refers to the degree of protection provided by electrical equipment enclosures against the ingress of solid objects and moisture in accordance with EN 60529.

IP X Y

X	Protection against the ingress of solid objects	Y	Protection against the ingress of moisture
0	No protection	0	No protection
1	Objects ≥ 50 mm diameter	1	Vertically falling drops of water
2	Objects ≥ 12.5 mm diameter	2	Direct sprays of water up to 15° from vertical
3	Objects ≥ 2.5 mm diameter	3	Direct sprays of water up to 15° from vertical (rain)
4	Objects ≥ 1.0 mm diameter	4	Water splashed from all directions
5	Protected against dust (no harmful deposit)	5	Low-pressure water jets from all directions
6	Totally protected against dust	6	High-pressure water jets or heavy seas
		7	Temporary immersion
		8	Prolonged immersion at a depth specified by the manufacturer
		9	K* High-pressure steam/water jet cleaning

Sammode tubular luminaires are rated IP 66, 68 and 69 K. The following tests have been conducted under laboratory conditions in accordance with ISO 20653. Materials and design choices are optimised to maintain this level of ingress protection throughout the life of the luminaire.

Rating	Use	Test procedure
IP65	Indoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. <ul style="list-style-type: none"> <li>• Test duration: 3 minutes</li> <li>• Flow rate: 12.5 l/min</li> <li>• Distance between the nozzle and enclosure surface: 2.5 m–3 m</li> <li>• Pressure: 30 kPa</li> </ul>
IP66	Outdoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. <ul style="list-style-type: none"> <li>• Test duration: 3 minutes</li> <li>• Flow rate: 100 l/min</li> <li>• Distance between the nozzle and enclosure surface: 2.5 m–3 m</li> <li>• Pressure: 100 kPa</li> </ul>
IP68	Outdoor	<ul style="list-style-type: none"> <li>• Immersion of the luminaire in cold water</li> <li>• Immersion of the luminaire at a depth of 4 m (0.4 Bar)</li> <li>• The luminaire is switched on for 1 hour before commencement of the test</li> <li>• the luminaire is switched off during the test</li> <li>• Immersion duration: 1 hour</li> </ul>
IP69 K	Pressure washing	Spraying the enclosure with a high-pressure jet of hot water to reproduce food industry cleaning conditions. <ul style="list-style-type: none"> <li>• Test duration: 2,5 minutes</li> <li>• Flow rate: 15 l/min</li> <li>• Distance between the nozzle and enclosure surface: 100 and 150 mm</li> <li>• Pressure: 10000 kPa</li> <li>• Water temperature: 80 °C</li> </ul>

Up to, and including, the second figure 6, the rating implies compliance with the requirements of all lower numbers.

## Impact Resistance (IK)

Sammode luminaires with borosilicate glass bodies are IK07 rated; all others are IK10 rated. The following tests have been conducted under laboratory conditions in accordance with EN 62 262. Materials and design choices are optimised to maintain this level of impact

resistance throughout the life of the luminaire. The ingress protection levels of our luminaires remain intact following mechanical impact, as long as this remains below the impact energy guaranteed by the IK rating.


IK XX

XX	Protection against the ingress of solid objects
00	No protection
01	Impacts of 0.14 Joule impact energy (the energy of a 14 g weight falling 1m)
02	Impacts of 0.2 Joule impact energy (the energy of a 20 g weight falling 1m)
03	Impacts of 0.35 Joule impact energy (the energy of a 35 g weight falling 1m)
04	Impacts of 0.5 Joule impact energy (the energy of a 50 g weight falling 1m)
05	Impacts of 0.7 Joule impact energy (the energy of a 70 g weight falling 1m)
06	Impacts of 1 Joule impact energy (the energy of a 100 g weight falling 1m)
07	Impacts of 2 Joules impact energy (the energy of a 200 g weight falling 1m)
08	Impacts of 5 Joules impact energy (the energy of a 500 g weight falling 1m)
09	Impacts of 10 Joules impact energy (the energy of a 1 kg weight falling 1m)
10	Impacts of 20 Joules impact energy (the energy of a 2 kg weight falling 1m)

## Electrical safety classification

The electrical safety classification defines a level of electrical protection for the user as the basis for measuring the potential risk of a person coming into contact with mains voltage (230 V AC)

or any other voltage hazardous to humans (above 50 V in dry surroundings). Sammode luminaires comply with electrical safety classe I in accordance with EN 60598-1.

Class	Protection	Symbol
Class I	Equipment that is electrically insulated and provided with a connection to earth to protect exposed metal parts that could become live accidentally	

## Fire resistance

The glow wire test is governed by the IEC 60695-2-10 standard and is applied to determine whether the luminaire installed in a building could potentially burn and, more importantly, could contribute to the spread of fire. Sammode luminaire diffusers pass the glow wire test at a temperature of 650 °C for the coextruded polycarbonate/polymethyl methacrylate versions, and 960 °C for the polycarbonate versions.

The borosilicate glass diffuser and metal luminaire components are deemed non-flammable. All our emergency lighting luminaires pass the glow wire test at 960 °C. The test consists of applying a wire heated to a fixed temperature (650 °C, 850 °C, 960 °C, etc.) for a fixed period (5 or 30 seconds, for example) and examining the behaviour of the luminaire housing, especially if it catches fire.



# Our products are trusted by all these companies and organisations

Acérel  
Ajinomoto Foods Europe S.A.S  
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Bahier  
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Bombardier  
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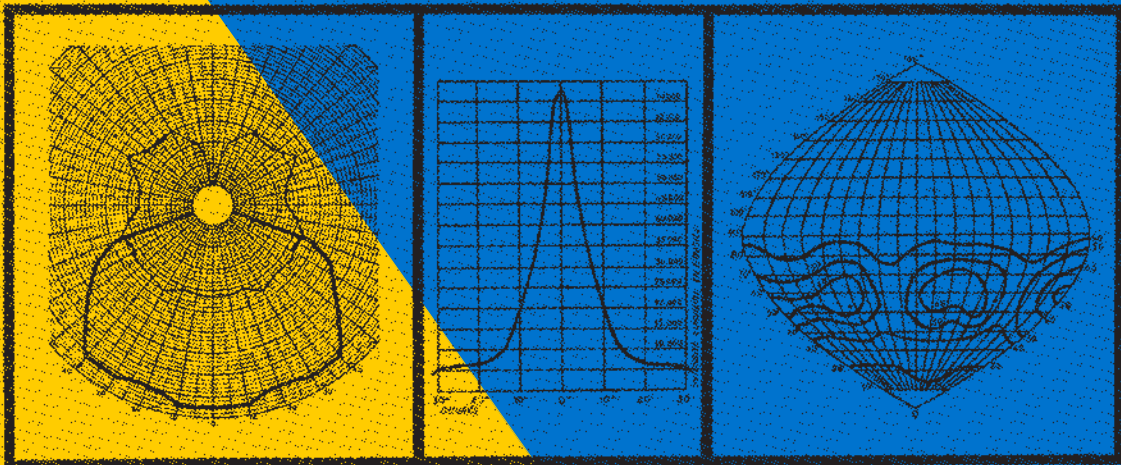
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## Products

	General lighting	Task lighting	LED
Bunsen 100	42	58	●
Bunsen 133	43		●
Einstein 100 HT	44	60	
Einstein 133 HT	45	61	
Hooke 100 HT		59	
Joule 133	46	63	●
Pauli 100 HT 80	47	64	
Pauli 133 HT 80	48	65	
Pauli 100 HT 100	49	66	
Pauli 133 HT 100	50	67	
Pauli 133 HT 200	51	68	
Rankine 70		62	●



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Courbe en coordonnées cartésiennes

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of the 1930  
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